



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-748-201
Job Sheet 174648



Handwritten: 5000 / 1400

Part No: D350-748-201

Job Qty: 1 ea

Part Name: Aft Crosstube AS350 / AS355



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/20/18

Job Tracking No:

Due Date: 7/20/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV H IPP Rev: A New Issue 06-07-05 JLM IPP Rev: B Update qty of MS21042L5 06-09-12 KJ IPP Rev C Combined manufacturing 08.04.02 EC verified: DD IPP Rev: D 08-06-24 revD as per dwg DD verified: EC IPP Rev: E 08.12.11 Step17 was step 21 KJ Verified: EC IPP Rev: F 10.08.04 added QSI010 4.3 DD ver: EC IPP Rev: G ADD UNDER BEND COMMENT 12-05-28 JLM IPP Rev: H 12.11.05 as per dwg D350-748-141G DD ver: JLM IPP Rev: I 15.03.19 as per dwg D350-748-241 revH dd ver: jlm

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		7/19/18	0.00	0.00	Start Up Crosstubes-1		18-07-17 DPL
110	CNC Bend Crosstubes	1 pcs		7/19/18	0.00	2.94	CNC Bend Crosstube		18-07-17 DPL
120	Crosstubes	1 pcs		7/19/18	0.00	2.65	Crosstubes-2	P10.040518	18-07-17 DPL
125	Outsource	1 pcs		7/19/18	0.00	0.00	Outsource1		JUL 19 2018
126	Packaging	1 pcs		7/19/18	0.00	0.00	Packaging2		JUL 19 2018
127	QC	1 pcs		7/19/18	0.00	0.00	QC15		38
128	Crosstubes	1 pcs		7/19/18	0.00	2.65	Crosstubes-2		GP 18-07-25
130	Crosstubes	1 pcs		7/19/18	0.00	1.85	Crosstubes-2		GP 18-07-25
140	QC	1 pcs		7/19/18	0.00	0.00	QC6		38
150	Outsource	1 pcs		7/19/18	0.00	0.00	Outsource3		38
160	Packaging	1 pcs		7/19/18	0.00	0.00	Packaging2		AUG 15 2018
170	QC	1 pcs		7/19/18	0.00	0.00	QC6		38
174	Outsource	1 pcs		7/19/18	0.00	0.00	Outsource2		9-89
176	Packaging	1 pcs		7/19/18	0.00	0.00	Packaging2		AUG 21 2018
178	QC	1 pcs		7/19/18	0.00	0.00	QC5		38
180	SprayPaint	1 pcs		7/19/18	0.00	0.88	Spray Paint		9-89
190	QC	1 pcs		7/19/18	0.00	0.00	QC14		
200	Crosstubes	1 pcs		7/20/18	0.00	1.85	Crosstubes-2		
210	QC	1 pcs		7/20/18	0.00	0.00	QC5		
220	Packaging	1 pcs		7/20/18	0.00	0.00	Packaging1-3		
230	QC	1 pcs		7/20/18	0.00	0.00	QC4		
235	DC	1 pcs		7/20/18	0.00	0.00	DC		
240	Packaging	1 pcs		7/20/18	0.00	0.00	Packaging3-1		
250	QC21-FG	1 Ea		7/20/18	0.00	0.00	QC21		

Part Op 110 - Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT _____ *****UNDER
Descriptions: BEND .225" PER SIDE*****

120 - ****VERIFY CROSSTUBE DIMENSIONS AS PER DWG****

125 - ISSUE P/O TO METCOR: _____

127 - ***MARK CUT LINES***

128 - CUT TUBE AT HEIGHT ON FAI SHEET

130 - 2- Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs, 3 -Deburr 4- Engrave Part # and Batch # as per

Handwritten: Twist = 0.1825

DQA: _____ Date: _____

DART
AEROSPACE**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; font-size: small;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																																																															
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Tube D350-745-201 8092710 came back from Cadorth and failed MPI			Perform LPI and eddy current and record finding. Give finding to quality for disposition <u>SCRAP</u>																																																																																																																																
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Dwg D350-748-241 5-Remove all marks from tube within limits of D350-748-241

156 - Issue P/O: 040620

160 - Ensure certificate of conformity is attached

174 - ISSUE P/O TO ACCUREN: P0040752

WLB AUG 17 2018

180 - 1-Prime inside and out crosstube as per QSI 005 4.2

190 - Then, Wrap in plastic bag to protect from scratches

200 - INSTALL GROUND WIRE INSERT, THEN INSERT SCREW AND WASHER 2-Install supports with Proseal 890 per D350-748-241 and QSI 015 EXP: _____ 3-Install supports clamps Using Dt8876 as per Dwg D350-748-

241, Torque to 60-80 IN-LBS.

235 - Photocopy bluefile & type labels per PPPD350-748-201 CHG003

240 - Identify and pack for shipping as per PPPD350-748-201 PPP Rev: _____

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D350-748-241TRN	Crosstube Turning Detail	1 (1 ea)	90-Start up Operation	
ALS4-1032-225	Rivnut	1 Ea (1 ea)	200-Crosstubes	
D3502-1	Support	2 Ea (2 ea)	200-Crosstubes	
D5123-7	Clamp Cushion	2 Ea (2 ea)	200-Crosstubes	
MS21920-20	Clamp	2 Ea (2 ea)	200-Crosstubes	
MS27039-1-10	Screw	1 Ea (1 ea)	200-Crosstubes	
NAS1149D0363J	Washer	1 Ea (1 ea)	200-Crosstubes	
AN4-41A	Bolt	8 Ea (8 ea)	220-Packaging	
AN4-6A	Bolt	16 Ea (16 ea)	220-Packaging	
AN5-32A	Bolt	4 Ea (4 ea)	220-Packaging	
D3500-1	Saddle	4 Ea (4 ea)	220-Packaging	
D3501-1	Bushing	16 Ea (16 ea)	220-Packaging	
MS21042L4	Nut	24 Ea (24 ea)	220-Packaging	
MS21042L5	Nut	4 Ea (4 ea)	220-Packaging	
NAS1149D0463J	Washer	32 Ea (32 ea)	220-Packaging	
NAS1149D0563J	Washer	8 Ea (8 ea)	220-Packaging	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation <u>5071752</u>	D350-748-241TRN	1	0	0
200-Crosstubes	ALS4-1032-225	1	1,149	0
	D3502-1	2	62	0
	D5123-7	2	145	0
	MS21920-20	2	108	0
	MS27039-1-10	1	313	0
	NAS1149D0363J	1	3,131	0
220-Packaging	AN4-41A	8	230	0
	AN4-6A	16	620	0
	AN5-32A	4	114	0
	D3500-1	4	101	0
	D3501-1	16	99	0
	MS21042L4	24	2,466	0
	MS21042L5	4	722	0
	NAS1149D0463J	32	3,386	0
	NAS1149D0563J	8	2,107	0

Part Specifications

Specifications could not be found.



Container No: S092710



Part: D350-748-201

Job No: 174648

Serial No/Batch: S092710

Revision:

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 3/20/18 10:56 AM Dart.lajeunesse.marie

Date: 07/17/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

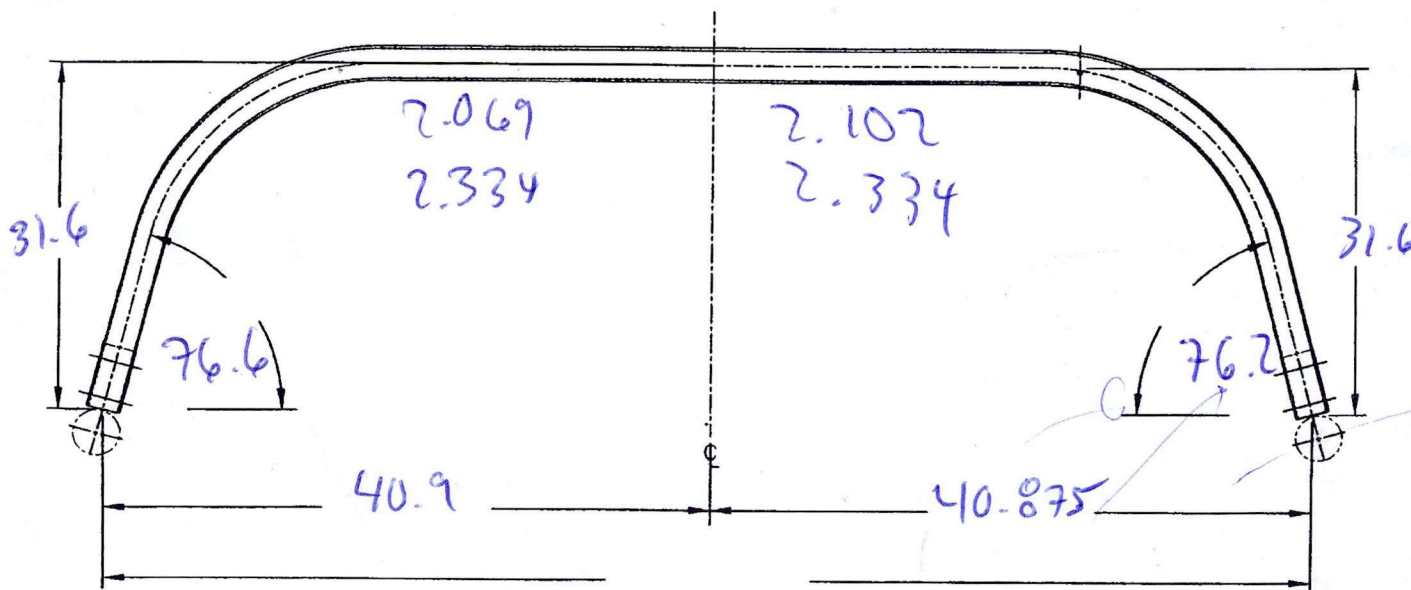
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : _____					

DART AEROSPACE LTD	Work Order:	174648
Description: Crosstube High Aft (AS350/355)	Part Number:	D350-748-201
Inspection Dwg: D350-748-241 Rev: H		Page 1 of 1

Required Dimension	Min	Max
Height	31.10	31.60
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06
Bending Passes	7	--
Crushing	--	8%
Twist	--	0.38



	Side A	Side B
Bending Passes	42	42
Crushing	5.9%	5.2%
Comments		

QC15 Inspection	ED
Date	18-07-19

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	12.04.16	Added bending, crushing & twist dimensions	KJ	
D	12.07.31	Dwg Rev updated	KJ	
E	13.02.27	Dwg Rev updated	KJ	
F	14.02.13	Crushing & twist dimensions revised	KJ	
G	14.11.10	Height dimension revised	KJ	
H	15.07.20	Crushing dimension revised	KJ	

Item	Qty	Part Number	Description
	-241		
1	X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D5123-7	CLAMP CUSHION
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (OR MS21920-21/-22, PER DART SPEC. M-MS21920-21/-22)
8	1	MS27039-1-10	SCREW
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125
FINISHED LENGTH AFTER TURNING = 124.70±0.06 (AFTER BENDING/TRIMMING = 122.70 REF)
- FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCE: PER DART QSI 018 UNLESS OTHERWISE NOTED.
WALL THICKNESS ECCENTRICITY PER DART QSI 038 7.2
MIN. ALLOWABLE WALL IS -0.020 FROM NOMINAL
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- WEIGHT: 29.85 lbs
- PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.

TURNING

- BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS2759/1E AFTER TURNING. ACCEPTABLE TO VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.

BENDING

- ALL DIMENSIONS FOR BENT TUBE ARE POST STRESS RELIEF
- BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES PER SIDE. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D. ON TOP HALF OF BEND, AND 8% ON BOTTOM HALF OF BEND.
- MAX AMPLITUDE OF RIPPING ALONG BENT PORTION OF THE TUBE IS 0.030 (ZN A1-3)
- AFTER BENDING, STRESS RELIEVE TUBE AT 650°F ±0.25°F FOR A MINIMUM OF 2 HRS AND ALLOW TO COOL TO AMBIENT TEMPERATURE (REF AMS2759/1E).
- MAX TWIST AFTER STRESS RELIEF: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.38 (ZN C1-3).

ASSEMBLY

- TO INSTALL D3502-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.02" TO 0.05" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

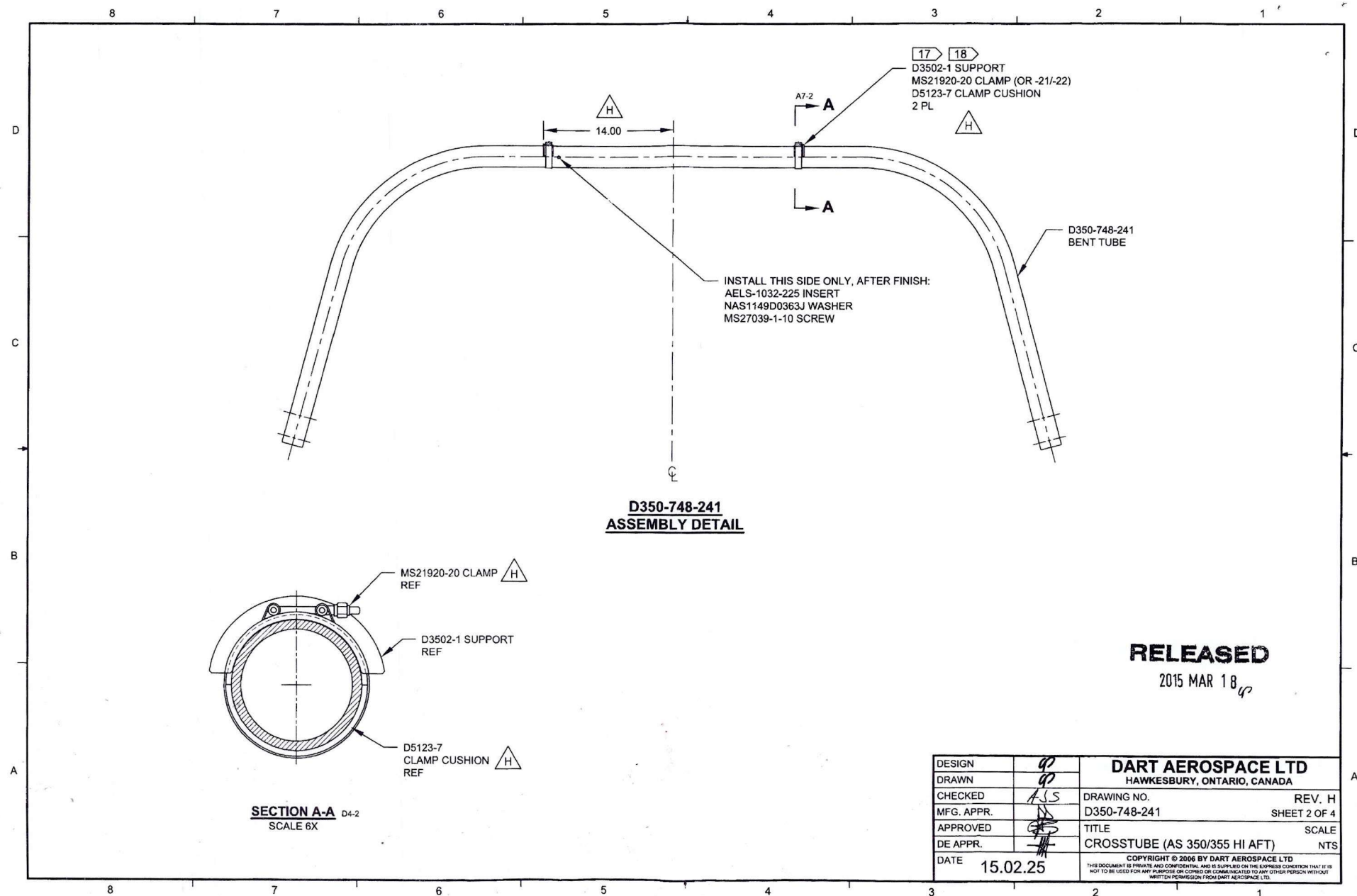
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 174648 M-5
18-03-21

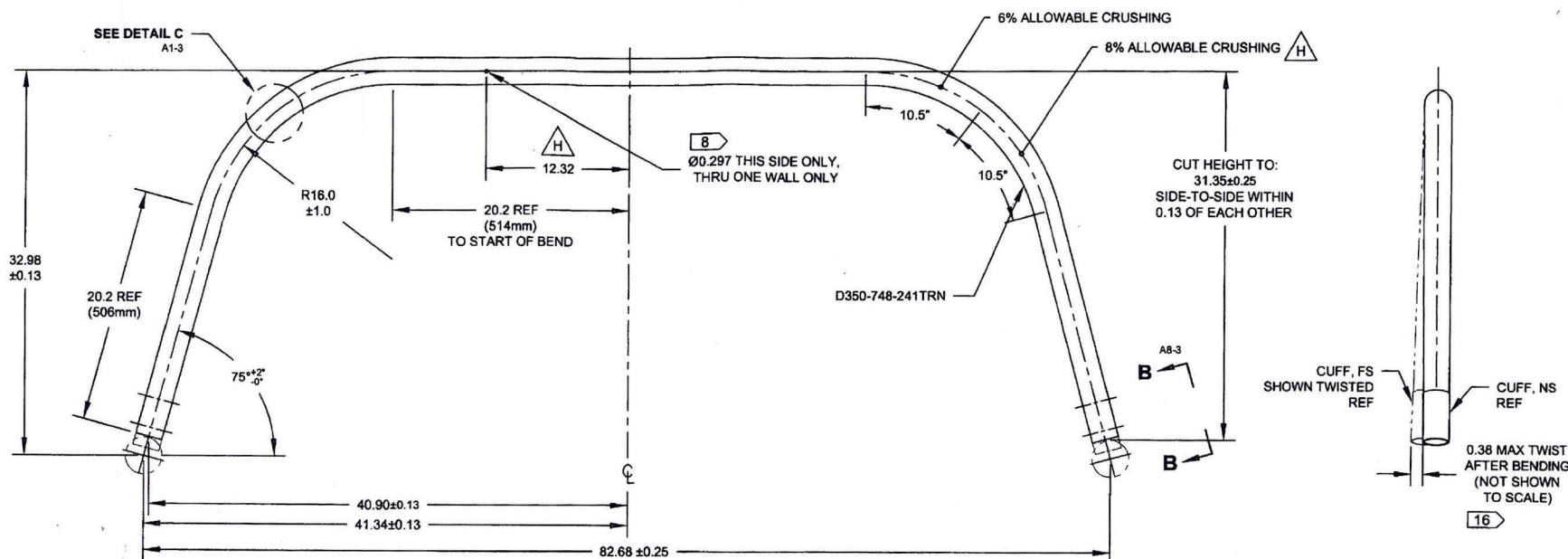
RELEASED

2015 MAR 18

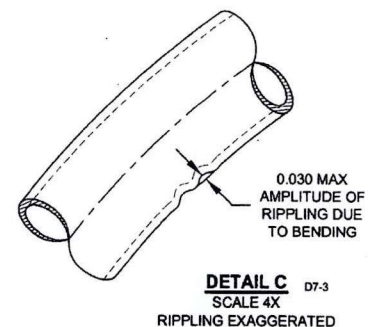
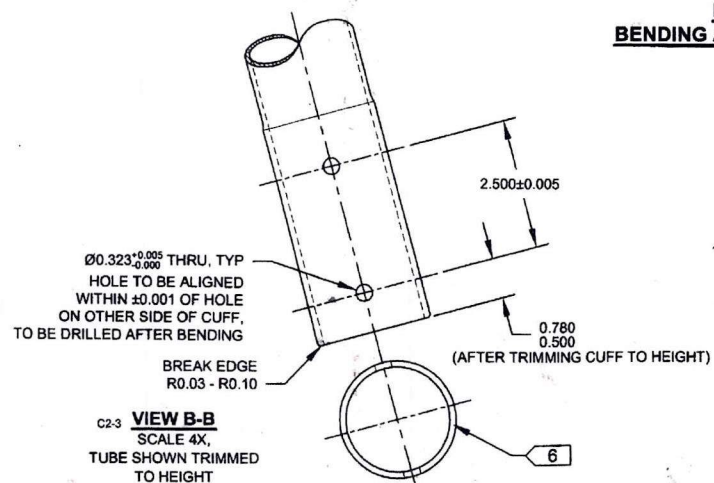
97 ECU 15-547

H	D5123-7 WAS D3595-063-395, MS21920-20 WAS -22, ALLOWABLE CRUSHING NOW 8% WAS 7%, 14.00 WAS 14.37 (D5-2), 12.32 WAS 12.69 (D5-3)	CP	15.02.25
G	RMV ABRASION STRIP, SUPPORT NOW W/ PROSEAL & CUSHION, ADD STRESS RELIEF, LONGER CUFF, NOW TRIM'D AFTER BEND, ADD WALL DIMS & UPDATE TOL.	CP	12.09.12
F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A8-3); ADD TOLERANCES (ZN C8-3, D2-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6018-125 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. H D350-748-241 SHEET 1 OF 4 TITLE SCALE CROSSTUBE (AS 350/355 HI AFT) NTS	
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	15.02.25		
COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			





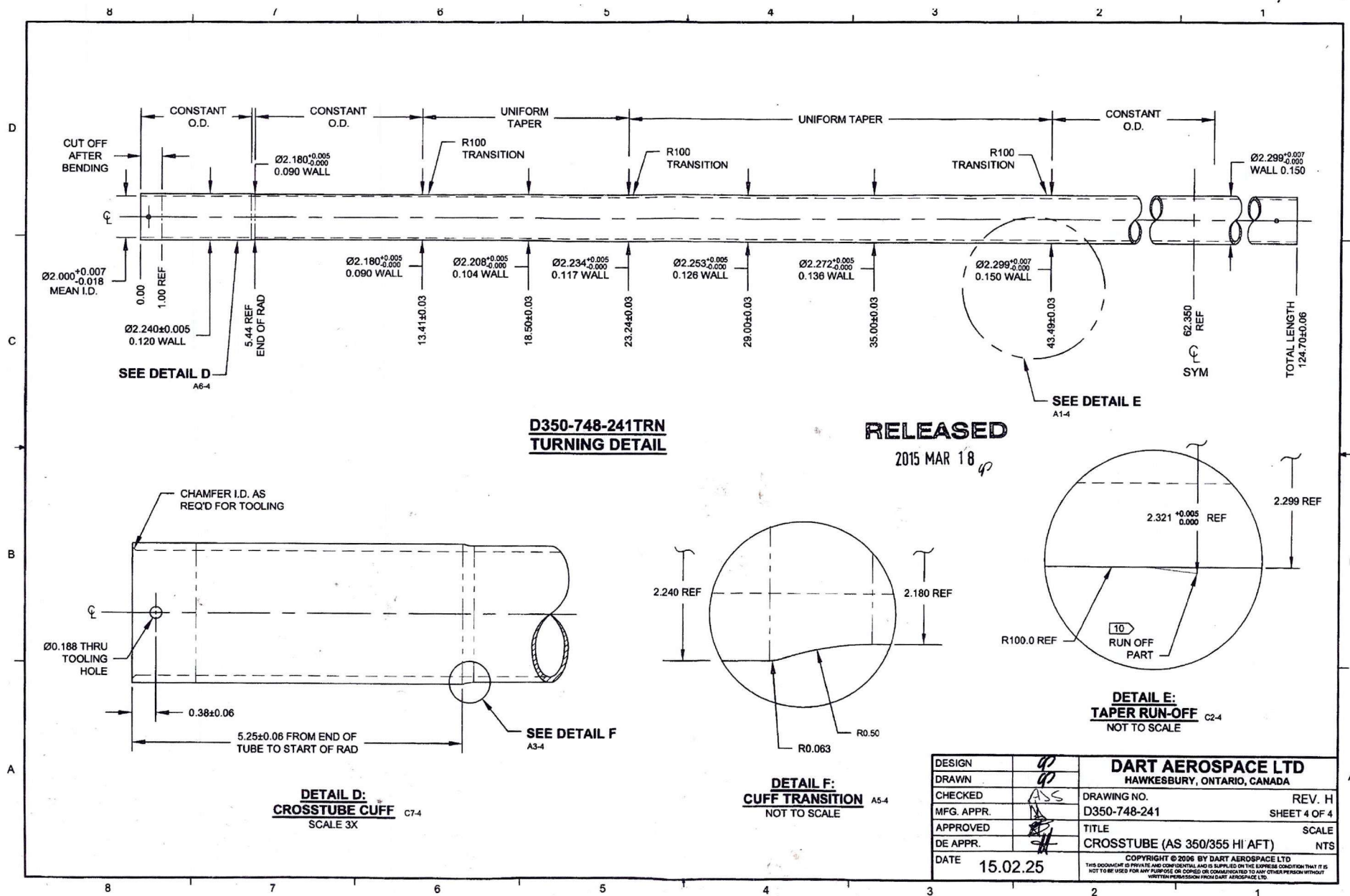
D350-748-241
BENDING AND DRILLING DETAIL 10



RELEASED

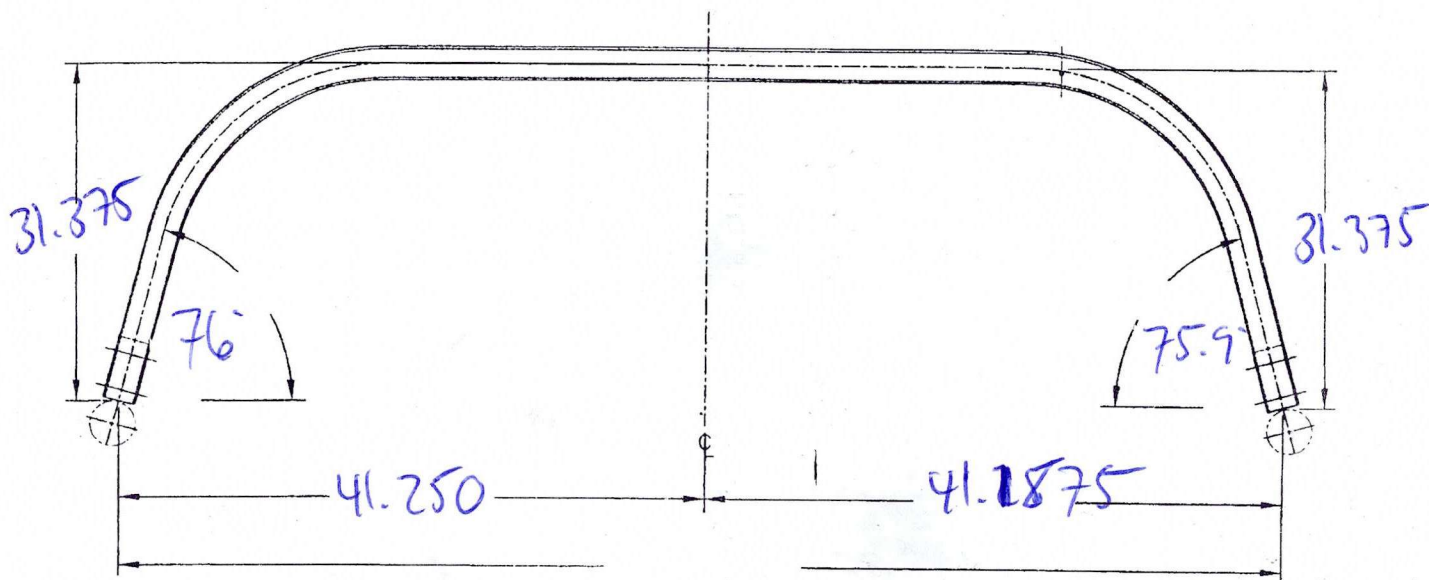
2015 MAR 18

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D350-748-241	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	15.02.25	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



DART AEROSPACE LTD		Work Order:	
Description: Crosstube High Fwd, SS (AS350/355)		Part Number:	D350-748-103
Inspection Dwg: D350-748-143 Rev: A		Page 1 of 1	

Required Dimension	Min	Max
Height	23.00	23.50
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.55	82.05
Bending Passes	7	--
Crushing	--	8%
Twist	--	0.38



	Side A	Side B
Bending Passes		
Crushing		
Comments		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	15.09.09	New Issue	KJ	AA

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
329168	1	129686

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À /Shipped To

DART AEROSPACE

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
040518		Steel	2018/7/17	client

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
✓ 5	D350-748-201			150,
	(5) D350-748-201			
	JOB 174648,174649,174672,174646,174668			
	1 NIL			

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
NIL	1	

CERTIFICAT

EMPAQUETAGE Packing	
------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 5
POIDS EXPÉDIÉ / Weight Shipped : 150,00
QUANTITÉ RESTANTE / Quantity Remaining : 0
POIDS RESTANT / Weight Remaining : 0,00

APPROUVE

CERTIFICAT

QUANTITÉ EXPÉDIÉE Quantity Shipped:	5
POIDS EXPÉDIÉ / Weight Shipped :	150,00

Signature:

Date:

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
329168	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
040518	N/A	Steel		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

STRESS REL

SAE AMS 2759/1 REV.E

EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results

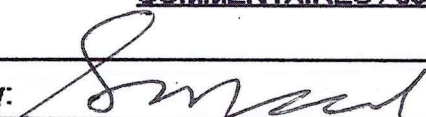
Visual

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
5	150	D350-748-201 (5) D350-748-201 JOB 174648,174649,174672,174646,174668 1 NIL

18/7/18

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



DATE: 2018-07-18

APPROUVÉ



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO040630

Supplier: CAD002-VC
Cadorath Coating
2150 Logan Ave.
Winnipeg
MB
R2R 0J2 Canada
Phone: 204 633 9420
Fax: 204 633 8033

PO No: PO040630
PO Date: 7/27/18
Due Date: 8/1/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174632	D350-748-101	FWD Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 Issue P/O: _____ Stress relief at 375degree for 5hrs Magnetic Particle Inspect per ASTM E1444 Cad Plate per AMS-QQ-P-416B, Class 1, Type 2 Embrittle relief at 375 defree for 8 hrs, Chromate Treat C of C req'd	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	181018	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174619	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174638	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174644	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
Sub Total:							5	0	5		\$4,025.00

PURCHASE ORDER

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	174648	D350-748-201	Aft Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 Issue P/O: _____ Stress relief at 375degree for 5hrs Magnetic Particle Inspect per ASTM E1444 Cad Plate per AMS-QQ-P-416B, Class 1, Type 2 Embrittle relief at 375 degree for 8 hrs, Chromate Treat C of C req'd	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174675	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174672	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174649	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174646	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
Sub Total:							5	0	5		\$4,025.00
										Grand Total:	\$8,050.00
Order Notes											
Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.											

Plex 7/27/18 11:42 AM dart.tsimiklis.chrisoula

Packing Slip



Cadorath Coating

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2

Phone: (204) 633-9420 Fax: (204) 633-8033

INVOICE NUMBER:

S96721

Net 2% Interest Per Month charged on Overdue Accounts.

Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Sold To:

Dart Aerospace Ltd.
1270 Aberdeen St.

Hawksbury, ON K6A 1K7

ShipTo:

Customer Order #: PO040630

Date Received: Jul-31-2018

Terms:

NET 30 DAYS

G.S.T. #:

10071 6547 RT0001

Ship Via:

Ship Date:

Aug-03-2018

Item # Qty P/N & Description

2	1 EA	CROSSTUBE	S/N s093822
		P/N d350-748-101 ✓	W/O 185239 ✓
3	1 EA	CROSSTUBE	S/N s093613
		P/N d350-748-101 ✓	W/O 185240 ✓
4	1 EA	CROSSTUBE	S/N s093535
		P/N d350-748-101 ✓	W/O 185241 ✓
5	1 EA	CROSSTUBE	S/N s094950
		P/N d350-748-101 ✓	W/O 185242 ✓
6	1 EA	CROSSTUBE ✓	S/N s092710
		P/N D350-748-201	W/O 185243 ✓
7	1 EA	CROSSTUBE	S/N s092411
		P/N D350-748-201 ✓	W/O 185244 ✓
8	1 EA	CROSSTUBE	S/N s092564
		P/N D350-748-201 ✓	W/O 185245 ✓
9	1 EA	CROSSTUBE	S/N s092783
		P/N D350-748-201 ✓	W/O 185246 ✓
10	1 EA	CROSSTUBE	S/N s092689
		P/N D350-748-201 ✓	W/O 185247 ✓
1	1 EA	CROSSTUBE	S/N s093272
		P/N d350-748-101 ✓	W/O 185238 ✓



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040752

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO040752
PO Date: 8/15/18
Due Date: 8/20/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments: Rework for D119-796-241 -job# 180154 is
included in price

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174644	D350-748-101	FWD Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKYSERVICE:	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174638		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174632		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174619		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	181018		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
Sub Total:							5	0	5		\$613.64
2	174675	D350-748-201	Aft Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKYSERVICE:	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174649		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174672		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174648		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174646		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
Sub Total:							5	0	5		\$613.64
3	180759	D212-664-101	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
			1 X AUG 2 1 2018								



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040752

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
			LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
4	180560	D4885-1	End Fitting : Various STC's Issue P/O: _____ LPI Per ASTM 1417 LEVEL 2 Certificate of conformaty is required	Firmed	-	8/20/18	8 pcs	0 pcs	8 pcs	\$22.25/pcs	\$178.00
Grand Total:											\$1,528.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 8/20/18 1:26 PM dart.baker.diane

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO#: MWO37085	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO040752
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON:

5 FWD CRUSSTUBES , P/N# D350-748-101 , J/S# 174644 , 174638 , 174632 , 174619 , 181018

5 AFT CRUSSTUBES , P/N# D350-748-201 , J/S# 174675 , 174649 , 174646 , 174672 , 174648

1 AFT CROSSTUBE , P/N# D119-796-241 , J/S# 180154 (REWORKED AREA)

1 FWD CROSSTUBE , P/N# D212-664-101 , J/S# 180759

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						AUG 16 2018	 DOT-APP 20 53-89
CRACK FOUND ON AFT CROSSTUBE J/S# 174648							
REMAINING ITEMS: NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date:
Name: RAFIK MELIKIAN		AUG 16 2018